

IN THE CLAIMS:

1 1-11. (Cancelled)

1 12. (New) A two-cycle combustion engine which comprises:

2 a combustion chamber;

3 a crank chamber accommodating a crankshaft;

4 a bearing provided on a side wall of the crank chamber for rotatably supporting
5 the crankshaft;

6 a first scavenging passage for supplying an air-fuel mixture to the combustion
7 chamber; and

8 a second scavenging passage for supplying a scavenge air to the combustion
9 chamber;

10 wherein one of the first and second scavenging passages communicates between
11 the combustion chamber and the crank chamber through the bearing for the crankshaft, and the
12 other of the first and second scavenging passages communicates directly between the combustion
13 chamber and the crank chamber.

1 13. (New) The two-cycle combustion engine as claimed in claim 12, wherein the first
2 scavenging passage communicates between the combustion chamber and the crank chamber
3 through the bearing for the crankshaft while the second scavenging passage communicates
4 directly between the combustion chamber and the crank chamber, and further comprising:

5 a suction chamber formed in a side face of a piston;

6 an air-fuel mixture passage for introducing an air-fuel mixture M into the suction
7 chamber; and

8 an air passage for introducing an air into the crank chamber;

9 wherein during an intake stroke of the engine, the air-fuel mixture from the air-
10 fuel mixture passage is introduced into the first scavenging passage through the suction chamber
11 and the air from the air passage is introduced into the crank chamber; and

12 wherein during a scavenging stroke of the engine, introduction of the air within
13 the crank chamber into the combustion chamber through the second scavenging passage takes
14 place before the air-fuel mixture within the first scavenging passage is introduced into the
15 combustion chamber.

1 14. (New) The two-cycle combustion engine as claimed in Claim 13, wherein the
2 piston has a lubricant passage formed therein for supplying the air-fuel mixture within the
3 suction chamber to a small end bearing disposed between a piston pin and a connecting rod.

1 15. (New) The two-cycle combustion engine as claimed in Claim 13, wherein the
2 second scavenging passage is positioned at a location closer to an exhaust port opening to the
3 combustion chamber for discharging an exhaust gas from the combustion chamber than the first
4 scavenging passage in a direction circumferentially of the combustion chamber.

1 16. (New) The two-cycle combustion engine as claimed in Claim 15, further
2 comprising a third scavenging passage for communicating directly between the combustion
3 chamber and the crank chamber;

4 the third scavenging passage being positioned at a location closer to the exhaust
5 port than the second scavenging passage in the direction circumferentially of the combustion
6 chamber; and

7 wherein during the scavenging stroke, introduction of the air within the crank
8 chamber into the combustion chamber through the second scavenging passage takes place before
9 an air-fuel mixture introducing timing, at which the air-fuel mixture within the first scavenging
10 passage is introduced into the combustion chamber, and, simultaneously with the air-fuel mixture
11 introducing timing or at a timing thereafter, introduction of the air within the crank chamber
12 through the third scavenging passage takes place.

1 17. (New) The two-cycle combustion engine as claimed in Claim 16, wherein an
2 opening of the second scavenging passage towards the crank chamber is closed by the piston
3 before the piston reaches a bottom dead center.

1 18. (New) The two-cycle combustion engine as claimed in Claim 12, wherein the
2 first scavenging passage communicates directly between the combustion chamber and the crank
3 chamber while the second scavenging passage communicates between the combustion chamber
4 and the crank chamber through the bearing for the crankshaft, and further comprising:

5 a suction chamber formed in a side face of a piston;

6 an air passage for introducing an air into the suction chamber; and

7 an air-fuel mixture passage for introducing an air-fuel mixture into the crank
8 chamber;

9 wherein during an intake stroke of the engine, the air from the air passage is
10 introduced into the second scavenging passage through the suction chamber and the air-fuel
11 mixture from the air-fuel mixture passage is introduced into the crank chamber; and

12 wherein during a scavenging stroke of the engine, introduction of the air within
13 the second scavenging passage into the combustion chamber takes place before the air-fuel
14 mixture within the crank chamber is introduced into the combustion chamber through the first
15 scavenging passage.

1 19. (New) The two-cycle combustion engine as claimed in Claim 18, further
2 comprising an air regulating valve for closing the air passage when a pressure inside the air
3 passage decreases to a value equal to or lower than a predetermined value.

1 20. (New) The two-cycle combustion engine as claimed in Claim 18, wherein an
2 opening of the first scavenging passage towards the crank chamber is closed by the piston before
3 the piston reaches a bottom dead center.

1 21. (New) The two-cycle as claimed in Claim 18, wherein the second scavenging
2 passage is positioned at a location closer to an exhaust port opening to the combustion chamber
3 for discharging an exhaust gas from the combustion chamber than the first scavenging passage in
4 a direction circumferentially of the combustion chamber.

1 22. (New) The two-cycle combustion engine as claimed in Claim 12, wherein the
2 first scavenging passage communicates directly between the combustion chamber and the crank
3 chamber while the second scavenging passage communicates between the combustion chamber
4 and the crank chamber through the bearing for the crankshaft, and further comprising:

5 an air passage for introducing an air into the second scavenging passage;

6 a reed valve disposed in the air passage; and

7 an air-fuel mixture passage for introducing an air-fuel mixture into the crank
8 chamber;

9 wherein during an intake stroke of the engine, the air from the air passage is
10 introduced into the second scavenging passage through the reed valve and the air-fuel mixture
11 from the air-fuel mixture passage is introduced into the crank chamber; and

12 wherein during a scavenging stroke of the engine, introduction of the air within
13 the second scavenging passage into the combustion chamber takes place before the air-fuel
14 mixture within the crank chamber is introduced into the combustion chamber through the first
15 scavenging passage.

1 23. (New) The two-cycle engine as claimed in Claim 22, wherein an opening of the
2 first scavenging passage towards the crank chamber is closed by the piston before the piston
3 reaches a bottom dead center.

1 24. (New) The two-cycle engine as claimed in Claim 22, wherein the second
2 scavenging passage is positioned at a location closer to an exhaust port opening to the
3 combustion chamber for discharging an exhaust gas from the combustion chamber than the first
4 scavenging passage in a direction circumferentially of the combustion chamber.

1 25. (New) The two-cycle combustion engine as claimed in Claim 12, wherein the
2 first scavenging passage communicates directly between the combustion chamber and the crank
3 chamber while the second scavenging passage communicates between the combustion chamber
4 and the crank chamber through the bearing for the crankshaft, and further comprising:

5 an air-fuel mixture passage for introducing an air-fuel mixture into the first
6 scavenging passage;

7 an air passage for introducing an air into the second scavenging passage;

8 a first reed valve disposed in the air-fuel mixture passage;

9 a second reed valve disposed in the air passage;

10 wherein during an intake stroke of the engine, the air-fuel mixture from the air-
11 fuel mixture passage is introduced into the first scavenging passage and the air from the air
12 passage is introduced into the second scavenging passage; and

13 wherein during a scavenging stroke of the engine, introduction of the air within
14 the second scavenging passage into the combustion chamber takes place before the air-fuel
15 mixture within the first scavenging passage is introduced into the combustion chamber.

1 26. (New) The two-cycle engine as claimed in Claim 25, wherein the second
2 scavenging passage is positioned at a location closer to an exhaust port opening to the
3 combustion chamber for discharging an exhaust gas from the combustion chamber than the first
4 scavenging passage in a direction circumferentially of the combustion chamber.

1 27. (New) A two-cycle combustion engine, which comprises:
2 a needle bearing for supporting a crankshaft within a crankcase;
3 first and second scavenging passages for communicating between a combustion
4 chamber and a crank chamber;
5 an air-fuel mixture passage for introducing an air-fuel mixture into the crank
6 chamber or the first scavenging passage during an intake stroke;
7 an air passage for introducing an air into the second scavenging passage or the
8 crank chamber during the intake stroke; and
9 a communicating hole for fluidly connecting the first or second scavenging
10 passage with the needle bearing;
11 wherein during a scavenging stroke of the engine, introduction of the air within
12 the second scavenging passage into the combustion chamber takes place prior to the air-fuel
13 mixture within the first scavenging passage being introduced into the combustion chamber; and
14 wherein an opening of a lower end of the second scavenging passage towards the
15 crank chamber is positioned at a location adjacent a region radially outwardly of the needle
16 bearing.

1 28. (New) The two-cycle combustion engine as claimed in Claim 27, wherein an
2 opening of a lower end of the first scavenging passage towards the crank chamber is positioned
3 at a location adjacent a region radially outwardly of the needle bearing.